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ABSTRACT OF THE DISCLOSURE

CONTROL PROCEDURE USING A FUZZY LOGIC MODEL OF AT LEAST ONE INVERSE TRANSFER FUNCTION OF A DYNAMIC SYSTEM

A control procedure is provided for use during a regulation stage and according to a set point of a physical dynamic system, the set point being subject to, whilst operating, the influence of several physical quantities represented by input parameters, and adopting a behavior defined by at least a first physical output parameter, obliged to take a value represented by the set point, the first output parameter being linked to at least a first of the input parameters by a first transfer function of the system. According to the control procedure, a characterization stage is implemented in which at least a first inverse transfer function linking the first input parameter to the first output parameter is experimentally determined. A modeling stage is implemented in which the first inverse transfer function is translated through a fuzzy logic model in the form of a first set of ranges of the first output parameter, to each of which is attributed a specific value of the first input parameter. The regulation stage is implemented by determining a membership of the set point to one of the ranges of the first set, deducing from the membership and from the fuzzy logic model an estimated value of the first input parameter corresponding to the desired equality between the first output parameter and the set point, producing a measured value of the first input parameter, and regulating the first input parameter according to a difference between the estimated value and the measured value of the first input parameter. The present invention is particularly suited for use with electric motors.

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